Table 1A: Projected Emission Calculations for Shredding Plant With Water Control
2500 S. Paulina Street, Chicago, IL (Site No. 031600FFO)

Plant Component	Maximum Throughput (tons/hr)		Number of Emission Units: Hammermill	Conveyor Transfer Point		Cyclone System	Projected* Throughput (tons/yr)	Projected Annual Emission (lbs)		Projected Annual Emission (tons)
Hammermill	160		1	1		0	815,360	2,210		1.10
Feedstock Loading	160		0	1	(4)	0	815,360	1,875		0.94
Re-circulating Z-Box	160		0	0		1	815,360	16,307		8.15
Downstream Ferrous Line	112	(1)	0	6		0	570,752	24	(3)	0.01
ASR Management	48	(2)	0	5		0	244,608	163		0.08
Vehicle Traffic	(Please refer to spreadsheet on next page)							2,271	(5)	1.14
							Total PM Emissions (tons) =			**11.42**

NOTES:
(1) Magnetically separated steel is approximately 70% of shredder feedstock design throughput.
(2) ASR is approximately 30% of shredded feedstock design throughput.
(3) Less than an estimated 5% of ASR is residual to shredded steel cleaned in the Z-Box; 5% used in calculations. Emissions are for transfer points only.
(4) Feedstock loading is conducted without the benefit of water for dust control.
(5) Vehicle emission are adjusted upward to account for traffic 24 hrs per day, 365 days per year.
* Based on 5,096 hours/year operation at maximum capacity.

Emission Source	Emission Factor (lbs/ton)		Source Reference (see attached)
Hammermill	0.00257		Table D-10.F, ISRI Title V Applicability Workbook (attached) with water system.
Conveyor Transfer Point	0.00014	(6)	AP-42, Table 11.19.2-2 Emission Factors for Crushed Stone Processing Operations (controlled).
Re-circulating Z-Box	0.020	(7)	Calculations from manufacturer (See Appendix 3).
Feedstock Loading	0.0023		AP-42, Chapter 13.2.4.3; 11.21 mean wind speed (Chicago 44-year average);moisture content of 2.53%; particle size assumes PM-10 or less.

NOTES:

(6) Conveyor transfer point emission factors are for "controlled" sources, i.e., wet suppression used.
(7) Manufacturers estimation of emission at (0.187 lbs/min)./(170 tons per hr/60 min. per hr) = 0.066 lbs/ton.
Emission Calculation: Actual Emission = Design Throughput X 5096 hrs/yr X Emission Factor per Applicable Unit X No. of Emission Units

Vehicle Emission Factor					
Truck/Loader/ Crane Weight (lbs.)	Average Daily Traffic	Average Vehicle Weight (lbs.)	Total Miles Driven/Day	Vehicle Emission Factor (lb/VMT)	Daily Vehicle Emission (lbs.)
5,000	50	29,050	51	0.122	6.22
18,000	20				
40,000	130				

NOTES:
Vehicle weights are averaged for loaded and emptied.

Total miles driven is based on a round trip per vehicle into and out of the facility, plus estimated loader/crane movement on-site.

Vehicle emission factor determined by applying Equation 3 in AP-42 Chapter 13.2.1 Paved Roads; PM-10 0.015 from Table 13.2.1-1; 120 days of mean precipitation <0.01 inches; silt loading mean of 9.7 g/sq. m.; average vehicle speed = 5 mph